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IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY 1976-1977 ANNUAL REPORT

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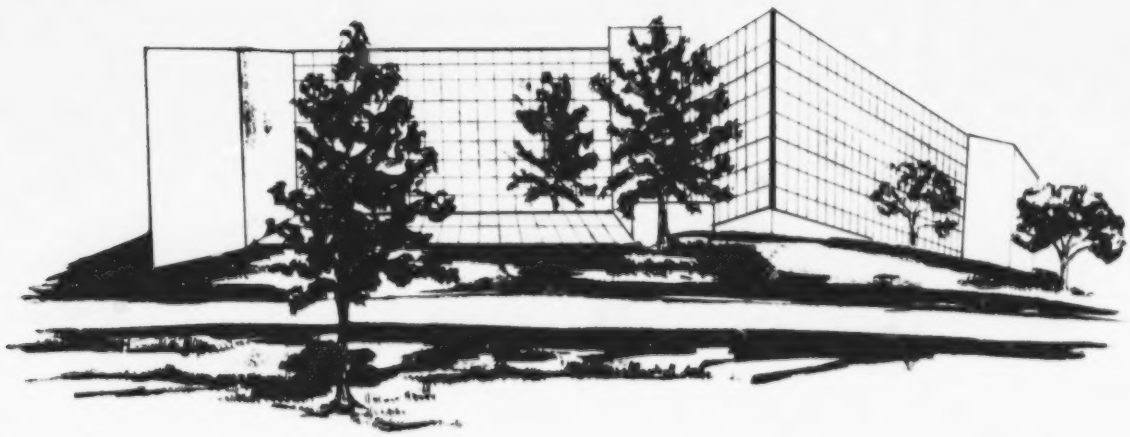

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY 1976-1977 ANNUAL REPORT

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16. ABSTRACT

The Iowa Department of Environmental Quality's Annual Report for fiscal year 1976-77 is organized into three major program areas: Air Quality, Land Quality and Water Quality. Activities of each area are reviewed along with goals for the future. The Department's organizational structure and financial summary complete the report.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution Control, Fugitive Emissions, Hazardous Materials, Iowa, Monitoring, Odor Control, Polychlorinated Biphenyls, Radioactive Contaminants, Solid Waste Disposal, Water Pollution Control, Water Treatment	Environmental Quality	

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To The People of Iowa:

The Department of Environmental Quality (DEQ) is responsible for improving and maintaining the quality of Iowa's air, land, and water. Our main function is to develop and implement programs which will assure a quality environment for all Iowans, present and future. These programs help insure that the major sources of pollution in Iowa are meeting the environmental standards. We encourage you to join us in this effort.

During the past fiscal year (July 1, 1976 - June 30, 1977) we have made some major advances in improving and protecting Iowa's environment.

- Most of Iowa's major industries are in compliance with the air quality emission standards.
- Iowa's first odor rules were adopted.
- Every Iowan now has access to an acceptable sanitary landfill.
- A bill giving DEQ the authority to enforce clean-up of hazardous substance spills was signed into law.
- Concerned Iowans have joined with DEQ and the Department of Soil Conservation in a continuing planning process for managing Iowa's water resources.
- Iowa's Water Quality Standards were revised.
- DEQ assisted 178 cities in receiving federal construction grants for wastewater treatment facilities. The grants totaled $28,200,000.
- A new modulized training program was developed to provide improved training opportunities for operators of wastewater and water supply treatment plants.

This report will discuss these accomplishments and many of our other activities. We hope to give you a better understanding of what we have been doing and what we will attempt to accomplish in the future. Along with highlighting Iowa's environmental achievements, the report also focuses on the State's environmental needs.

For example, within the next year DEQ will attempt to enforce three major Federal laws in Iowa. To implement the 1977 Clean Air Act Amendments and the Resource Conservation and Recovery Act, we will need legislative authority from the Iowa General Assembly. We also will need additional staff and funds to meet some of the Acts' requirements and to implement the Safe Drinking Water Act.

Our report is organized into three major program areas: Air Quality, Land Quality, and Water Quality. Each area will focus on topics of importance during the last fiscal year and on our future goals.

We encourage all Iowans to participate in the State's environmental planning and programs. DEQ's four commissions, boards and Executive Committee meet monthly to consider policies which affect you. These meetings are open to the public. We encourage your attendance and participation.

Sincerely,

Robert R. Buckmaster, Chairperson
Executive Committee
Department of Environmental Quality

IOWA'S AIR QUALITY

What goes up must come down. What we put into our air will come down into our environment and even into our lungs. Protecting the quality of Iowa's air is one of the major tasks of DEQ.

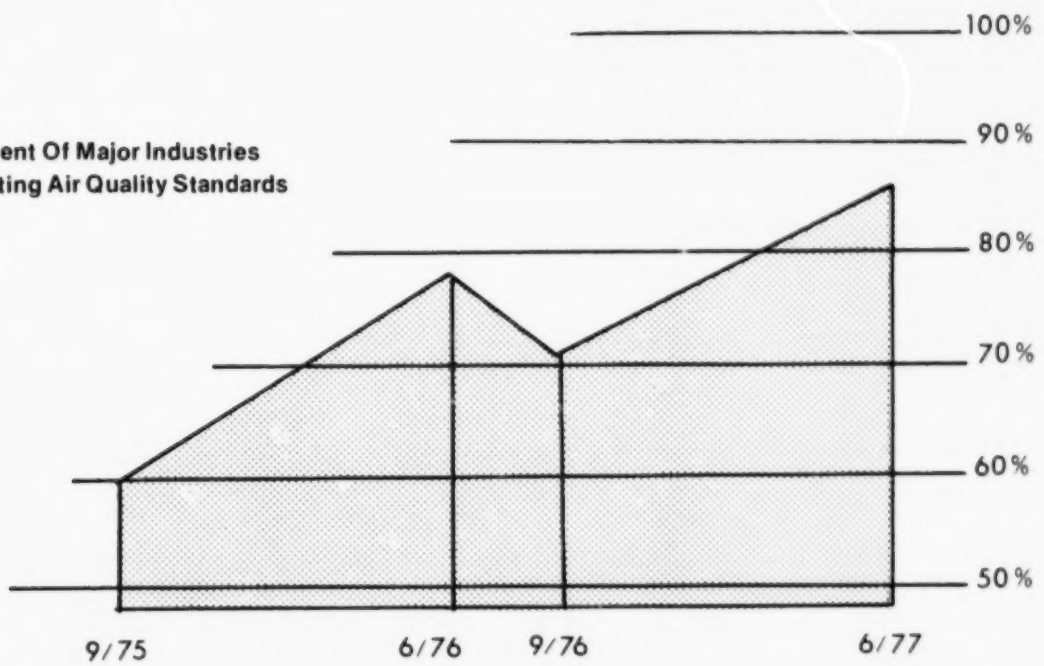
During the past year (July 1, 1976 – June 30, 1977), this effort again has centered around controlling industrial air pollution. The time and money spent in this area has been a profitable investment. As of June 30, 1977, approximately 86% of Iowa's major industries were in compliance with air quality emission standards and another 6% were on compliance schedules.

Controlling Industrial Pollution

Air pollution control devices are required for all industrial equipment having the potential to pollute the air. Before an industry is allowed to build a facility in Iowa, it is required to obtain a construction permit from DEQ. This permit insures that the proposed pollution control equipment will enable the industry to meet acceptable air quality standards. After the equipment is operating, regular checks are made to determine whether it is functioning properly.

If a facility is found to be out of compliance with the air quality standards, DEQ notifies the industry's officals. The industry then is given the opportunity to install required pollution control equipment or repair faulty equipment. Most industries voluntarily choose to take the necessary actions. If a facility refuses to comply, enforcement actions are taken in order to protect the quality of the air we breathe.

Percent Of Major Industries Meeting Air Quality Standards

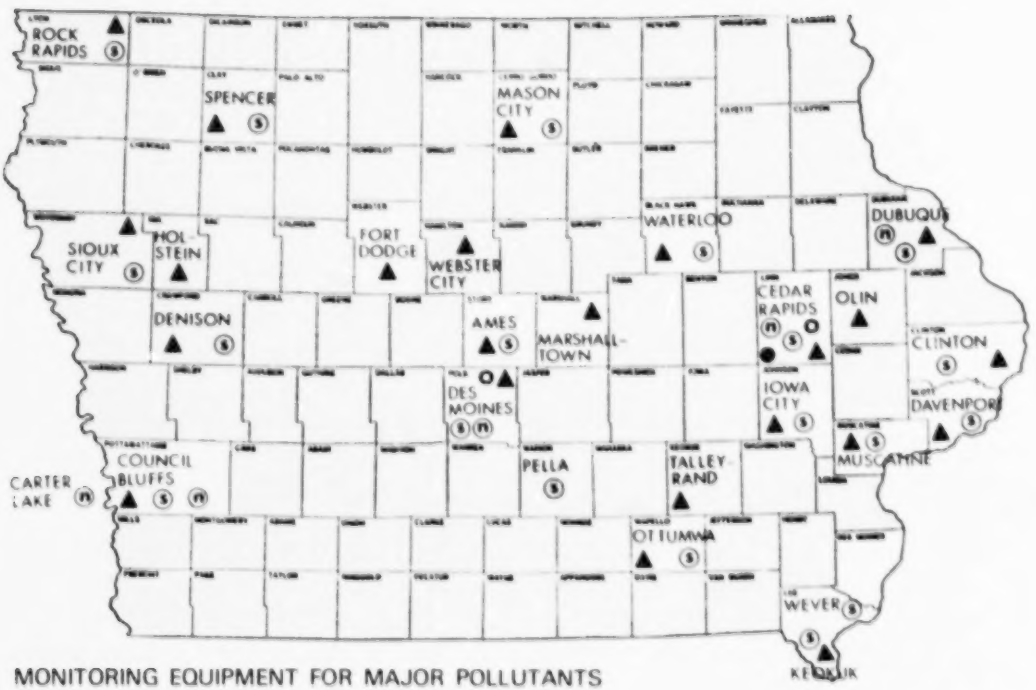


Monitoring Iowa's Air Quality

Even though most Iowa industries are in compliance, many of the State's major metropolitan areas are not meeting the ambient air quality standards. These areas, called non-attainment areas, are identified by monitors located throughout the state. These instruments detect the concentration of particulate matter or polluting gases which are in the air.

A study currently is underway to determine why non-attainment areas are not meeting the air quality standards. In some cases, industry still may be adding to the problem. Even facilities that are in compliance occasionally have pollution control equipment breakdowns. Other factors also must be considered. These include motor vehicles, fugitive dust and leaf burning.

IOWA'S AIR QUALITY MONITORING SYSTEM



MONITORING EQUIPMENT FOR MAJOR POLLUTANTS

- ▲ Particulate
- (S) Sulfur Dioxide
- (n) Nitrogen Oxides
- O Ozone
- ● Total Hydrocarbons

NON-ATTAINMENT AREAS IN WHITE

Iowa's Number One Air Polluter

Motor vehicles are known to be the chief cause of air pollution in Iowa. This is because of the sheer number of cars, trucks, and recreational vehicles, and because legislation that would require more stringent pollution controls and maintenance on motor vehicles has not yet been approved.

Despite our limited authority and resources in this area, DEQ is able to issue citations to owners of polluting vehicles. During the past year, 223 such notices were issued. DEQ, the Department of Transportation, and the Department of Public Safety are planning to develop an inter-agency program to deal more effectively with motor vehicle pollution.

Motor vehicle emissions do more than pollute the air, they also waste energy. DEQ has received numerous letters from trucking firms stating that their fuel consumption has been reduced as a result of the current motor vehicle citation program.

Rounding-Up Fugitive Dust

Motor vehicles are indirectly responsible for part of Iowa's fugitive dust problem. Fugitive dust is the general name for tiny particulates that come from fields, unpaved roads, parking lots, and grain bins. It is a natural pollutant in most cases.

Fugitive dust is the most visible and irritating form of pollution in many areas of the state. The drought-plagued months of the past year caused a greater than normal amount of this pollutant and pushed the agricultural areas near the upper allowable limit for general ambient air pollution.

Natural fugitive dust always will be with us. However, there are some types of problems which can be eliminated. DEQ deals with these problems on a case by case basis. The solutions may require spraying oil on unpaved roads, blacktopping parking lots or requiring air pollution control equipment on industrial sources.

Vehicle Emissions Increase Ozone Levels in Iowa

DEQ issues special air pollution advisories when ozone concentrations reach an unhealthy level. A total of 10 such advisories were issued during the past year. On June 15 ozone levels in Des Moines and Cedar Rapids were the highest ever recorded in Iowa. On that day Governor Ray walked to work and asked fellow Iowans to refrain from using their cars until the pollution level decreased.

To Burn or Not to Burn . . .

Another factor which can cause an area to violate the air quality standards is open leaf burning. During the past year, the Air Quality Commission continued its effort to eliminate this type of pollution. The commission adopted a rule which banned leaf burning in areas where the health standards for particulates and carbon monoxide were being exceeded. The areas affected are Cedar Rapids, Council Bluffs and Des Moines.

Carbon monoxide is one of the known pollutants of leaf burning. It is a colorless, odorless gas usually associated with motor vehicle exhaust. One of the most dangerous pollutants to humans, carbon monoxide in low concentrations may cause dizziness, headache, fatigue, and slow reaction. It is especially hazardous for persons suffering from asthma, heart disease, and anemia.

In the major cities of Iowa, carbon monoxide from leaf burning is added to the amount of this pollutant coming from vehicle exhaust. In Des Moines the total carbon monoxide concentration has exceeded allowed levels on some leaf burning days.

The leaf burning issue has not been resolved. In February, the Administrative Rules Review Committee of the Iowa Legislature objected to DEQ's leaf burning rule. The committee indicated that it was concerned that the rule was being applied to three specific areas and not to the state as a whole. Although the committee vote does not invalidate the rule, it does place the burden of proof on DEQ in any court actions resulting from enforcement of the rule.

Implementing the Clean Air Act Amendments

DEQ shall ask the 67th General Assembly for the authority to enforce the new Federal Clean Air Act Amendments in Iowa. The Amendments require states to take certain steps to bring non-attainment areas into compliance with the air quality standards. Any industry wishing to build a major emission source in these areas will be required to follow an "emission offset policy." This policy will not allow an industry to construct a major source unless the amount of pollution emitted by the source is offset by reductions from other emission sources. For example, if a cement plant wanted to build a new kiln that would add 2 tons of pollutants to the air per week, it could do so only after reducing by 2 tons the amount of pollutants emitted per week by existing kilns.

Effective August 7, 1978, major industries in attainment and undesignated areas will be required to monitor the air surrounding the proposed site for one year before applying for construction permits. This data will help DEQ determine whether the air quality would decrease significantly if a new industry were added to the area. The industry's monitoring data will be fed into DEQ's computer modeling system along with meteorological and other monitoring information. The computer model then will predict the relative air quality of the area before and after inclusion of the new industry. If the new industrial source is predicted to cause the air pollution to increase beyond the allowable level, the industry will not receive a construction permit.

By July 1, 1979, DEQ must submit a plan to the U.S. Environmental Protection Agency (EPA) stating how Iowa intends to bring its non-attainment areas into compliance with air quality standards. This plan will include controls for existing sources of pollution as well as future sources.

New Rules Confront A Nuisance

Iowa's first odor rules were adopted in May, 1977, by the Air Quality Commission. These rules were developed in response to numerous complaints by affected citizens. In many areas of the state, odors resulting from agricultural and industrial facilities cause discomfort to Iowans in residential areas. The adopted odor rules should help relieve the nuisance.

The new rules contain provisions for construction permits that become effective July 1, 1978. These provisions require that new anaerobic lagoons above a minimum size submit to a preconstruction review by DEQ. The review will determine the lagoon's odor production potential and water pollution potential.

The other odor rule provisions will become effective January 1, 1979. This group includes an odor standard based on the nuisance law of the Iowa Code. These rules establish procedures that will be used to investigate odor complaints. They require that the complaints must be filed by three or more residents from different premises who allege that the odor occurs for a period of ten or more days within thirty.

The new odor rules also provide exemption for disposal of animal wastes on farmland, with guidelines similar to those adopted by the Water Quality Commission in this area.

Although the odor rules have been approved, DEQ can not enforce them with current staff and funding. We shall request the resources to implement this program from the 67th General Assembly.

IOWA'S LAND QUALITY

DEQ's land quality programs attempt to protect the environment from garbage, special wastes, and hazardous substances. A primary goal of DEQ is to find the best methods for disposing of solid wastes and solving other land pollution problems.

Landfills Are A Healthy Solution

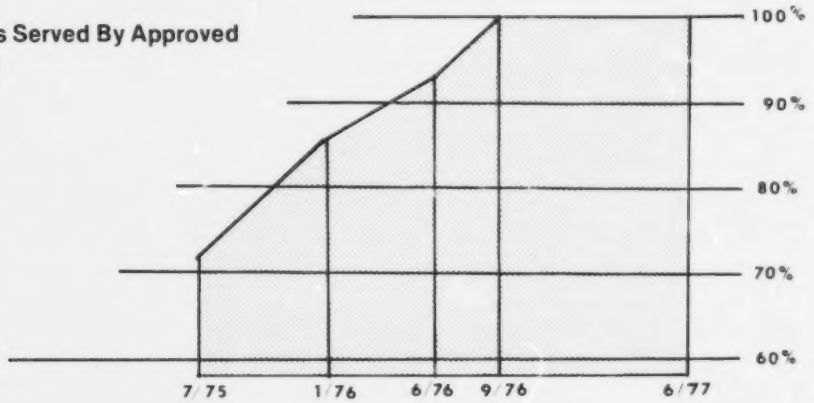
Given our present technological knowledge, the most healthful and economical means of handling regular municipal solid waste is the landfill. Landfills isolate wastes and keep them contained so they do not create health problems, cause offensive odors, or contaminate our water supplies. When a landfill has reached its capacity, the land can be re-used for cropland, pasture or recreational areas.

A major emphasis in DEQ's land quality program has been to provide acceptable landfills for all Iowans. During the past year (July 1, 1976 – June 30, 1977), this goal was realized. Every citizen now has access to an approved sanitary landfill.

DEQ will be acting to improve this program through continued inspections and by seeking legislation that will require all landfill operators to be certified. Certified operators would help insure Iowans that their landfills will remain safe and environmentally sound.

Although Iowa has over 115 approved landfills, open dumping still occurs throughout the state. DEQ investigates open dump reports and then takes necessary actions to stop this illegal activity.

Percent Of Iowans Served By Approved Sanitary Landfills



THE TRENCH . . . IOWA'S MOST COMMONLY USED LANDFILL

Wastes are deposited into the trench by waste collection trucks. Then a bulldozer is used to spread and compact the material. At the end of the day, soil is excavated from a future trench. This soil is used to cover each new layer of wastes.

Recycling Is The Best Solution

Many land pollution problems could be eliminated if we recycled more of our waste materials. During the last legislative session Governor Ray introduced a bill which would encourage the reuse and recycling of beverage containers by requiring a deposit on them. The Governor's proposal would be an effective means of resource recovery and would require only minimum involvement by the State. Similar legislation has proved successful in Oregon.

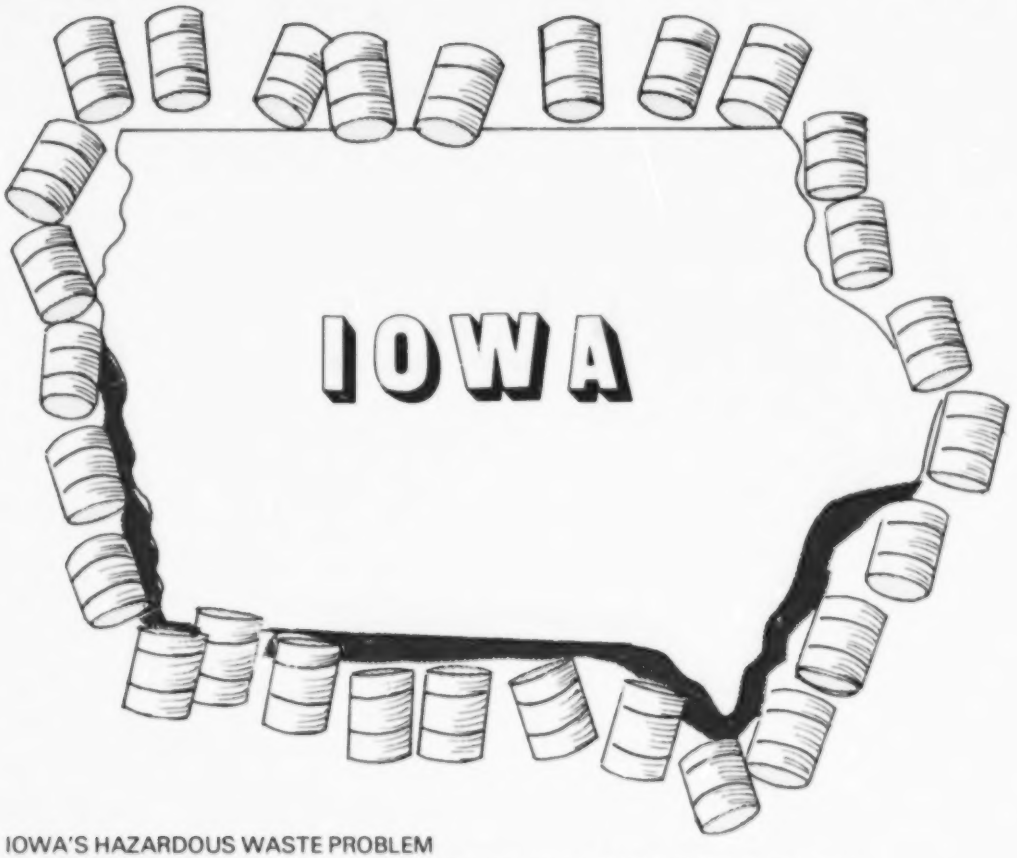
DEQ currently helps facilitate the recycling of industrial wastes. Industries wanting to dispose of certain special or hazardous wastes are required to obtain disposal instructions from the Department. In some cases the waste from one industry can be used by another.

Under the new U.S. Resource Conservation and Recovery Act, DEQ will attempt to find other ways to recycle waste materials. These methods will be part of an overall solid waste plan which will be developed during the next fiscal year.

Controlling Hazardous Wastes

Results of a 15-month study completed in Spring, 1977, show a definite need for better control of hazardous wastes in Iowa. The independent study was done by the North Iowa Area Community College (NIACC) of Mason City with the support of six agencies: DEQ, Department of Public Instruction, Office for Planning and Programming, Department of Agriculture, Iowa Job Services, and U.S. Environmental Protection Agency.

There is currently no uniform criteria for identifying the characteristics of hazardous wastes. A list of general definitions was used in the NIACC study. Waste materials were considered to be hazardous if they were flammable, explosive, reactive, corrosive, toxic, or pathological (i.e., containing disease-causing microorganisms).



IOWA'S HAZARDOUS WASTE PROBLEM

If all hazardous wastes generated in Iowa each year were put in 55 gallon drums, they could encircle the state. Iowa's total generation of hazardous wastes amounts to 1.5 pounds per capita per day.

According to the NIACC report, Iowa generates approximately 0.6 million tons and 35 million gallons of hazardous wastes each year. If these wastes were put in 55 gallon drums and placed side by side, they could encircle the state. The total generation of hazardous wastes in Iowa amounts to 1.5 pounds per capita per day.

Only fourteen percent of the State's hazardous wastes are recycled. One percent is disposed in approved Iowa landfills. Eleven percent are going out of state. Nine percent are disposed through municipal sewer systems. The majority of these wastes, 65%, are disposed on company-owned sites.

Although the dumping of industries' waste on their own land is legal, this practice can be environmentally harmful and unpleasant for entire communities. One Iowa industry has disposed of a highly toxic substance on its own land for over twenty years. Now DEQ is investigating the possible contamination of a major groundwater resource underneath the industry's disposal sites.

The volumes and types of wastes identified in this NIACC survey of industrial hazardous wastes show the real need for more stringent controls over all disposal operations. DEQ will use the information gained from this study in proposing legislation for hazardous waste control to the General Assembly. The requirements for hazardous waste disposal under the U.S. Resource Conservation and Recovery Act will be incorporated into those proposals.

Responding To Hazardous Substance Spills

Hazardous substances can be problems even before they become wastes, as shown in the following account:

June 24, 1977 . . . the driver parked his tanker at an I-80 rest stop and went into the restaurant. When he returned, he noticed something was wrong. His load had begun to spill onto the parking lot. The tanker was carrying a highly toxic chemical insecticide.

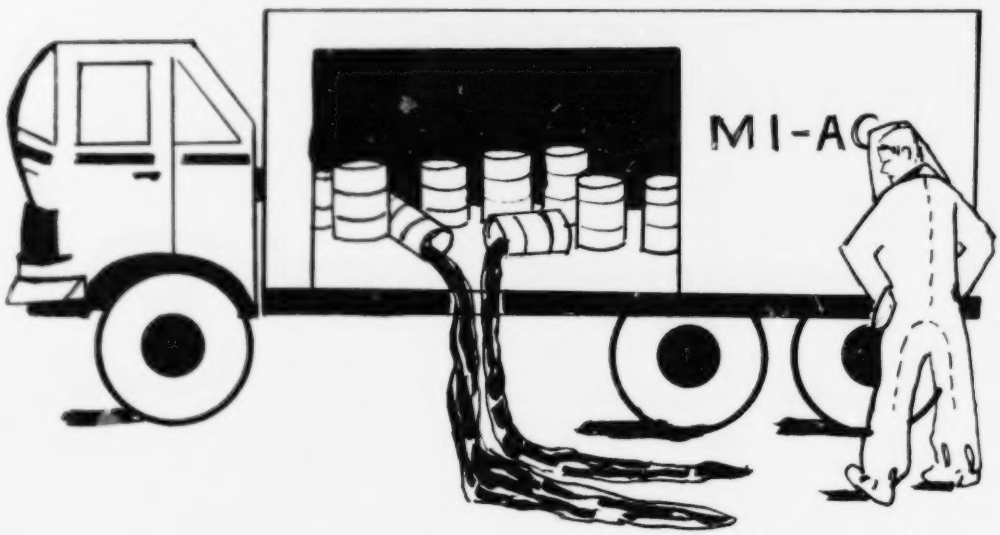
The alert trucker immediately called the Highway Patrol. They dispatched troopers to the scene and advised him to call DEQ. The driver was advised by DEQ to stay clear of the truck. A Department regional staff member trained in emergency responses was sent to the scene.

DEQ's investigator determined exactly what the chemical was and where it originated. The manufacturer was called and they arranged to send a pesticide safety team which was familiar with the chemical. Fortunately, only a small quantity of the chemical was spilled. Only two containers were actually damaged; and DEQ arranged for safe disposal of them in a landfill. The trucker's quick action prevented any real disaster.

This episode is one example of how DEQ's emergency spill response program works. During the past year, we responded to an average of seven spill reports per month. Some of these were transportation incidents involving trucks or trains. Others include pesticide fires or damage resulting from storms. This program has been dependent on voluntary cooperation from all parties.

Recognizing the need for stricter control of spills, the General Assembly passed the Hazardous Substance Spill Bill in May, 1977. The bill gives DEQ the authority to require that spills be cleaned up in an acceptable manner. An emergency phone line is open around the clock for reports of such incidents. DEQ also is developing a more complete program for responding to emergency reports.

Congress, under the Resource Conservation and Recovery Act, asks that states do more than simply respond to hazardous substance spills. The Act requires certain preventative actions to reduce the possibility of spills occurring. These preventative measures include establishing rules for proper storage and transporting of hazardous substances.



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Preventing Pollution Problems

Iowans learned first-hand the importance of pollution prevention during a potentially dangerous incident which occurred in March. Approximately 40,000 gallons of waste oil destined for use on Iowa's roads was found to be contaminated with the toxic chemical PCB (polychlorinated biphenyl). Fortunately this discovery was made before any of the substance had been sprayed into our environment. However, the entire PCB incident has brought some significant problems to our attention.

The major problem with PCB and other hazardous chemicals is that their use and disposal has gone unmonitored for years. No one really knows how many of these hazardous substances exist, where they are, or how much has been disposed improperly. Dumping toxic chemicals into waste oil is not a safe disposal method, but this practice apparently has been going on unnoticed and unchecked.

Hazardous materials are being transported around the country without any effective safety requirements. At present, there are no uniform laws requiring that local authorities be informed when potentially dangerous substances are brought into their areas. DEQ did not know that the PCB contaminated waste oil was in Iowa until that information was passed on informally from another state.

Once DEQ learned of the contaminated waste oil, precautions were taken to keep it in check. However, the problem of disposal has not been solved. Proper disposal sites for hazardous wastes are scarce. Iowa has none. Arrangements finally were made to ship most of the PCB's out of the state for incineration. However, some of the waste oil which contains low levels of PCB's remains stored in Fort Dodge and is still a State concern. DEQ will continue to search for an acceptable site to incinerate the remaining material.

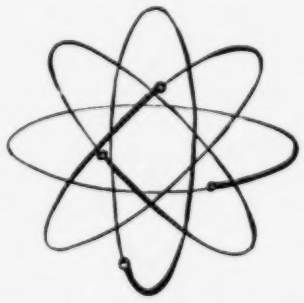
Planning For Radiation Safety

The Interagency Coordinating Council on Radiation Safety was created by the 1975-76 legislature to coordinate efforts among the State agencies responsible for radiation safety in Iowa. DEQ was elected to chair the council.

During the past year, the council developed Iowa's first radiation safety plan. The plan calls for registration and inspection of all X-ray equipment by the Department of Health. It recommends the establishment of training standards for all operators of X-ray equipment. Iowa is one of the few states that does not regulate X-ray equipment. Such regulation is important because X-rays are the primary source of low-level human-produced radiation. The accumulation of small dosages of low level radiation over an extended period of time could lead to greater occurrence of tumor formation and genetic damage.

DEQ also participated in another radiation safety program during the past year. "Operation Sunshine" was designed to test Iowa's emergency response program for radiation disasters. A simulated disaster at a nuclear power plant was staged. The exercise pointed out some areas in the State's radiation program which should be improved. Although Iowa has only one nuclear power plant, there are five located in bordering states.

Fortunately Iowa has not had any serious radiation emergencies. However, the State must be prepared to handle a disaster if one were to occur. DEQ would work with the Office of Disaster Services, the State Hygienic Laboratory and the local health department in responding to possible radiation emergencies.



IOWA'S WATER QUALITY

The first major environmental program developed in Iowa was for the protection of our water resources. Over the years this pollution control effort expanded to meet the State's continuing needs. Our current water quality program includes four major areas: water quality management planning, wastewater treatment, water supplies, and operator certification.

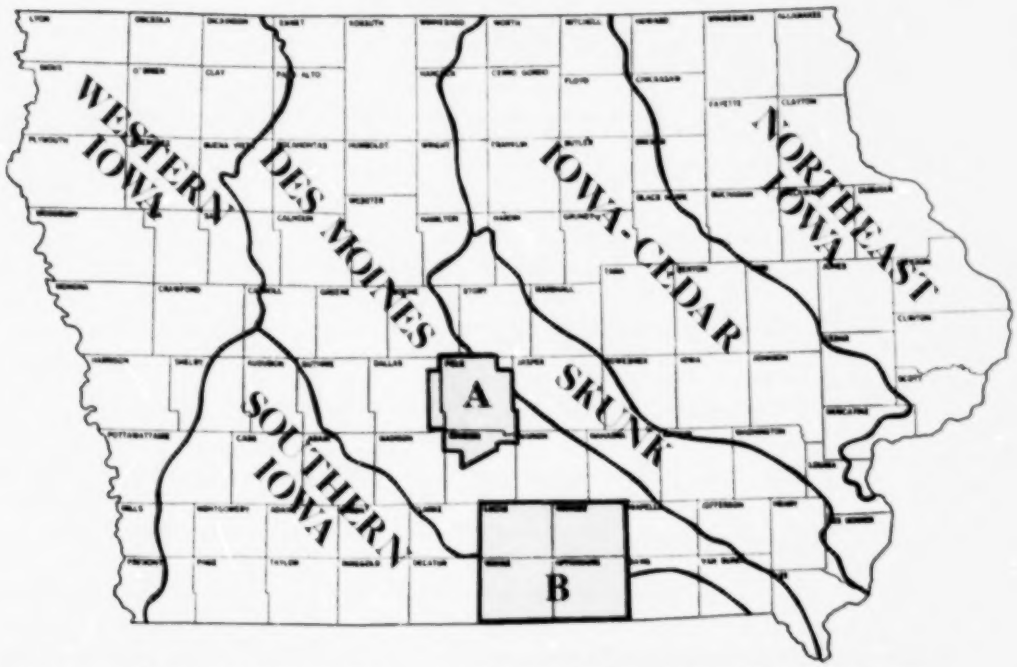
Planning For Clean Water: 208 In Iowa

DEQ has begun a continuing planning process to insure proper water quality management in the State. This program was established in conjunction with a national effort designed to clean up the nation's waters by 1983. It was introduced through Section 208 of the Water Pollution Control Act and is known informally as "208". The 208 program calls for developing a comprehensive plan for maintaining and enhancing water quality in Iowa's streams and lakes.

DEQ has encouraged public participation in 208 clean water planning through a system of advisory committees. Six Basin Advisory Committees (BACs) are located throughout the State. One Statewide Policy Advisory Committee (SPAC) consists of representatives from each BAC plus nine at-large members.

Although DEQ is responsible for coordinating statewide water quality management planning, the Des Moines and Lake Rathbun areas are developing their own local programs. All final plans will have the approval of the Iowa Water Quality Commission.

IOWA'S 208 PLANNING AREAS



Each river basin is served by a Basin Advisory Committee (BAC). Each BAC has 20 members representing urban and rural interests of the area.

The Statewide Policy Advisory Committee (SPAC) links the BACs to the Iowa Water Quality Commission. The SPAC is composed of representatives from the BACs plus nine at large members.

Des Moines (A) and Rathbun (B) areas are local programs which report directly to the Commission.

WHAT DO YOU THINK?
Public participation is an important part of Iowa's 208 water quality management planning.

The Department of Soil Conservation (DSC) has been working with the seven advisory committees and DEQ to develop the non-point source portion of 208 planning. Non-point sources include agriculture and storm water runoff.

During the past year, Iowa's water quality planning effort has yielded one major completed task, while others are continuing. Iowa's Water Quality Standards were revised. As part of this revision, the state's streams and lakes were classified according to their usage (such as fishing, swimming, and boating). Certain waters were designated to receive special protection against pollution. The BACs were instrumental in classifying the streams and lakes in their local areas.

Other tasks in Iowa's 208 planning include:

- Determining the water quality of Iowa's streams and lakes.
- Determining various means for controlling nonpoint sources of pollution.
- Evaluating Iowa's current sludge disposal program in order to provide acceptable practices in the future.
- Considering the feasibility of regionalizing the operation and maintenance of sewage treatment plants.

Wastewater Treatment . . . Meeting Immediate Needs

Along with participating in Iowa's long-range water quality planning, DEQ's staff continued their efforts to meet the State's immediate environmental needs.

Federal law set priorities of cleaning up municipal and industrial wastewater operations by July, 1977. That goal has been DEQ's major emphasis in Iowa's water quality program.

The first step in controlling water pollution resulting from municipal and industrial waste is to determine the amount of waste that each facility can be allowed to discharge into each stream or lake. DEQ has done this waste allocation for the major facilities in the state and continues to update these evaluations as needed. Individualized waste allocations are necessary because streams and lakes vary considerably in size and in the amount of waste they can accommodate.

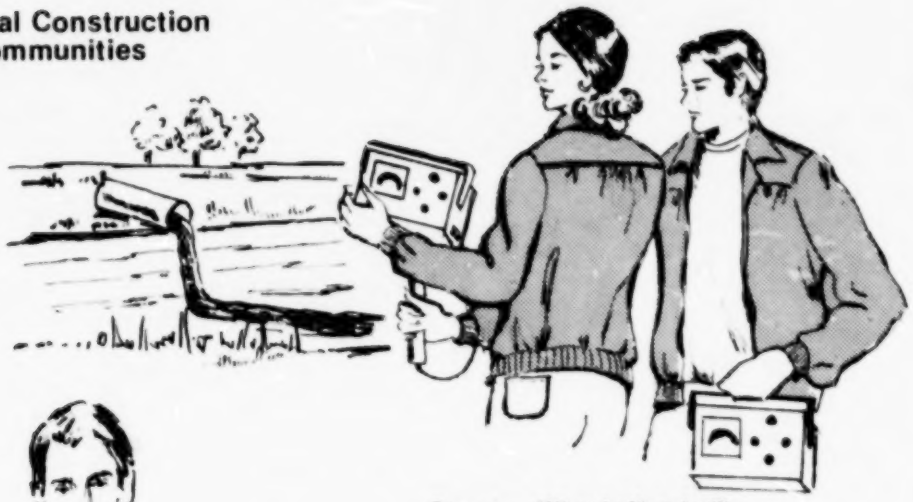
DEQ's data processing system provides the means for keeping track of over 850 individual waste allocations. Monthly or quarterly reports from major waste treatment facilities are fed into the computer, which compares the data to the facility's individual standards. A series of computer reports then can be produced which allow DEQ staff to tell at a glance which facilities are not in compliance and why.

After the waste allocations have been made, DEQ requires municipalities and industries to provide adequate treatment plants which will enable them to meet the waste limitations. Because municipalities cannot afford the full cost of treatment plants, DEQ staff assists them in getting financial aid through federal and state construction grants. Federal money will pay 75% of costs, and State funds cover 5%. DEQ has been successful in encouraging Iowa's cities to use the available funds.

Federal Construction Grants
July 1, 1976 — June 30, 1977

County	No. of Projects	Grant $	County	No. of Projects	Grant $
Adair	1	27,450	Johnson	3	48,090
Allamakee	3	22,960	Jones	2	22,720
Appanoose	2	185,100	Kossuth	1	1,800
Benton	4	39,810	Lee	2	25,050
Black Hawk	3	185,770	Linn	2	11,604,000
Bremer	3	171,290	Louisa	2	27,300
Buchanan	1	188,100	Lucas	1	3,000
Buena Vista	2	7,650	Lyon	4	919,950
Butler	3	19,870	Mahaska	1	4,800
Calhoun	2	13,040	Marshall	3	18,440
Carroll	2	48,070	Monona	2	136,120
Cass	3	10,850	Montgomery	2	20,250
Cedar	3	27,290	Muscatine	2	2,354,390
Cerro Gordo	3	11,620	O'Brien	2	2,347,650
Cherokee	2	17,400	Page	1	117,750
Chickasaw	2	129,670	Palo Alto	3	28,620
Clarke	1	2,920	Plymouth	6	102,960
Clay	1	120,450	Pocahontas	1	5,620
Clayton	3	93,590	Polk	10	2,033,350
Clinton	5	478,710	Pottawattamie	1	9,000
Crawford	2	143,250	Poweshiek	1	169,800
Decatur	3	315,290	Ringgold	3	134,350
Delaware	3	9,210	Sac	3	218,240
Dubuque	3	76,720	Scott	2	428,250
Emmet	1	20,170	Shelby	2	205,500
Fayette	3	21,890	Sioux	2	9,070
Franklin	3	30,370	Tama	3	125,090
Fremont	2	11,850	Union	1	10,200
Greene	1	90,750	Van Buren	1	131,620
Grundy	2	25,490	Wapello	1	2,020
Guthrie	2	241,570	Warren	3	1,129,570
Hamilton	3	285,780	Washington	1	3,000
Hancock	1	17,170	Wayne	2	10,870
Hardin	1	9,300	Webster	2	9,000
Harrison	3	35,170	Winnebago	2	17,990
Humboldt	3	178,490	Winneshiek	1	10,050
Ida	1	1,021,420	Woodbury	2	129,900
Iowa	3	23,550	Worth	1	185,470
Jackson	2	20,090	Wright	3	946,950
			78	178	28,203,900

Three Types of Federal Construction Grants Assist Iowa Communities



Step 1 — What is Needed?

The "Step 1" grants enable communities to evaluate their present wastewater systems. If the systems are found to be inadequate, decisions are made concerning the size and type of additions or new plants that are needed.

Step 2 — Design

The "Step 2" grants allow the municipalities to translate needs into final plans. With the completion of this grant, the new facilities are ready to be built.

Step 3 — Construction

Construction costs are covered by "Step 3" grants. The plant which is built should last 20 years with proper maintenance.

The current trend in construction grant applications indicates that Step 1 grants will decline and then continue being requested at a slower pace. The number of Step 2 and Step 3 grants will increase. This increase will call for additional DEQ staff time to review actual design plans and visit construction sites to insure that facilities are built according to approved design standards.

Iowa's construction grant program for wastewater treatment plants has netted some healthy results. Of Iowa's seven largest cities on the Mississippi River, six have completed or soon will complete construction on new treatment plants. Dubuque, Clinton, Davenport, Muscatine, and Fort Madison opened their new plants during the past year. Keokuk is scheduled to open its new plant this fall. Burlington, the seventh river city, will be in the Step 2 phase (design) this fall. Fifteen of Iowa's twenty largest cities either have completed new treatment plants within the past three years or have new plants currently under construction.

DEQ regularly inspects municipal and industrial wastewater treatment facilities to insure proper plant and equipment maintenance. The Department also collects samples of the treated water flowing from the plant. These samples are analyzed by the State Hygienic Laboratory. Test results from each facility are compared to its operating permit effluent limitations to determine whether the plant is in compliance with the law.

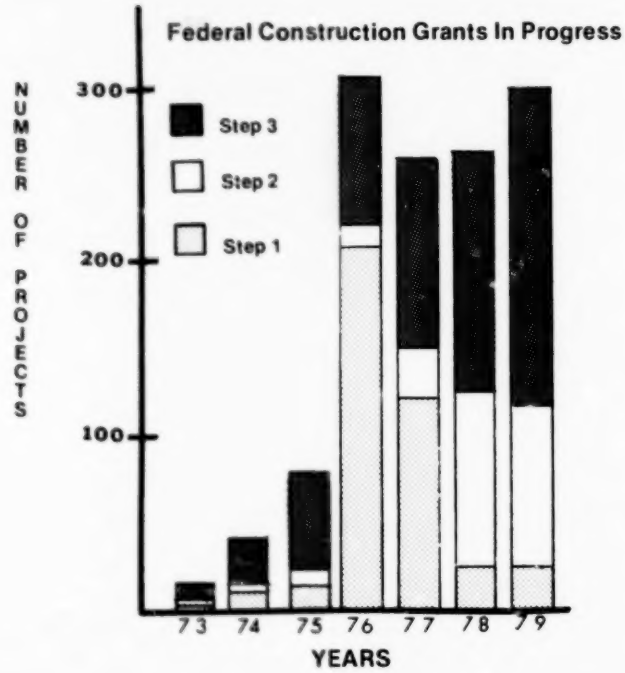
DEQ attempts to obtain voluntary compliance from facilities which exceed their permit limitations. If this action does not result in significant improvement of the situation, legal action is taken. During 1976-1977, 26 executive orders were issued requiring wastewater facilities to come into compliance. When DEQ's legal prerogatives are exhausted, the case may be submitted to the Attorney General for prosecution. Fourteen such referrals were made last year.

Regulating Animal Wastes

Iowa has had regulations controlling animal waste since 1969. The rules have been updated over the years to meet changing environmental requirements and animal production technology. For example, the increased size and greater concentration of livestock operations in recent years has increased the potential hazard of water pollution resulting from poor waste management practices.

During the past year, revised rules for controlling animal waste became effective. These rules require all animal feeding operations to meet minimum waste control standards. Also, certain new and existing operations must obtain construction and operation permits. The number of animals, type of waste storage, and distance of the feedlot operation from the nearest stream are factors determining whether a permit is required.

A booklet which condenses and clarifies the existing rules affecting animal feeding operations can be obtained from DEQ, your local County Extension Service Office, or Soil Conservation Service office.



Is Your Drinking Water Safe?

Most of us probably assume that the water we draw from our taps is pure and safe for drinking. Usually we are right, but exceptions can occur. Preventing those exceptions is the responsibility of DEQ and the water suppliers throughout the State.

An estimated 72% of Iowa's people are served by 825 municipal public water supplies. In the past, DEQ has inspected these supplies every three years. Last year we attempted to change this practice and inspect each facility. We actually completed 85% of these inspections.

The remainder of Iowa's population and the traveling public are served by approximately 2,200 smaller water supplies. Staffing and funding limitations prevent us from inspecting these smaller supplies on a regular basis. However, some are inspected by local health departments, other state agencies, or by DEQ upon special request.

Our major regulating functions for public water supplies are to assure compliance with construction permit requirements and to insure safe drinking water. The permit program requires any construction, alteration or extension of a public water supply to meet DEQ's design standards. This program also includes approving well sites. Safe drinking water is maintained through annual on-site sanitary surveys, water quality monitoring, enforcement of regulations, and operator certification.

The State Hygienic Laboratory assists DEQ in testing for health-related contaminants. Substances which can contaminate our drinking water include chemical, biological and radiological materials. Some secondary, non-health related, characteristics also are evaluated. These include water color, iron content, and rust content.

Within the upcoming year, DEQ will begin implementing the Federal Safe Drinking Water Act. The first year of this program will include an educational effort to inform Iowans about the Act and its requirements.

The Safe Drinking Water Act increases the number of water supplies that DEQ must inspect from 825 to approximately 2700. The Act requires water suppliers to notify the public when their supplies are not meeting water quality standards.

DEQ currently is developing a detailed program for implementing this legislation. A new data processing system, Model State Information System (MSIS), will be used to handle the information which will be generated from the new water supply program. The system will be used to process the environmental data which operators will send to DEQ. These reports will allow the Department to determine which supplies are in compliance and which are not meeting standards. The new data system also will track sampling schedules, the status of variances and exemptions, and enforcement procedures.

DEQ's present staff is not sufficient to complete all of the requirements of the Safe Drinking Water Act. To adequately enforce the Act, we will need additional staff and funding. We also shall seek the cooperation of other state agencies and local health departments. Perhaps some of the health related testing done by other agencies could be extended to include taking water samples. This type of interagency cooperation would eliminate duplication of effort and facilitate governmental procedures.

Training Is Essential

An essential part of both the wastewater and water supply programs is operator certification. Treatment plants do their job only if they are managed properly. Competent operators provide the expertise needed to keep the plant equipment working efficiently.

All operators of municipal wastewater and public water supply treatment plants in the State must be certified. This assures Iowans that the people operating their treatment facilities meet certain minimum standards of competency. Training is available through Kirkwood Community College, Iowa State University, and the University of Iowa.

When operator candidates complete their training, DEQ tests them to see if they qualify for certification. The Department's Operator Certification Board reviews all test results. During the last year 307 new wastewater and 305 new water supply certificates were issued. These additions, combined with annual renewals of existing certificates, brought the number of certified operators to 1617 in wastewater and 1789 in water supply.

Operators are expected to upgrade their training as necessary. A new 67 module training package, to be completed by DEQ during the next year, will allow operators to participate in various mini-courses which focus on their specific needs or interests. Other states have asked Iowa for these modules for use in their own programs.

Iowa Statewide Water and Wastewater Operator Training Manuals

DEQ ORGANIZATION

DEQ was created by an act of the 64th General Assembly and was officially organized January 1, 1973. We were established to consolidate environmental programs which existed in two state agencies and to provide a coordinated approach to environmental management.

During the 1976-77 Iowa Fiscal Year, DEQ has functioned with the following organizational structure:

Commissions and Boards

The four commissions, Air Quality, Chemical Technology, Solid Waste Disposal and Water Quality, are responsible for determining policies as well as developing and conducting programs to implement these policies. The commissions also adopt rules and standards, and initiate enforcement actions taken by the Department. The Operator Certification Board certifies wastewater and water supply treatment plant operators.

Executive Committee

The Executive Committee consists of the four commission chairpersons and six non-voting state agency directors who serve as advisory members. The committee maintains final approval over rules, policies, legislative proposals, contracts, and budgets.

Staff

The programs that are developed by the commissions are carried out through the DEQ staff of scientists, engineers, and other professionals. Our staff is headed by the Executive Director who is appointed by the Governor.

We are based in a central office in Des Moines and in six regional offices throughout the state. As of June 30, 1977, DEQ had 164 permanent full time positions, an increase of five during the fiscal year.

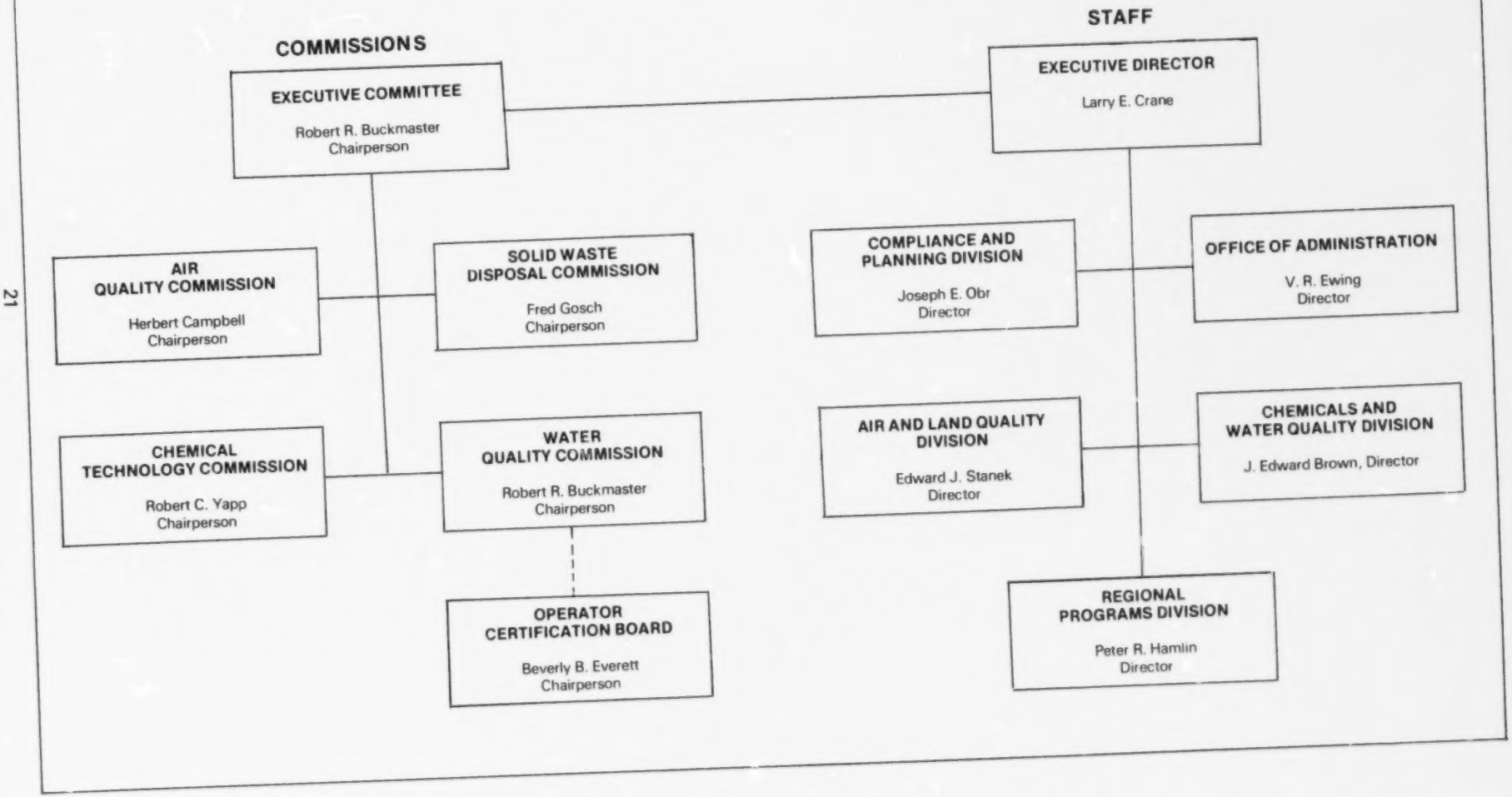
REGIONAL OFFICES

REGION	LOCATION	ADDRESS	P. O. BOX	TELEPHONE NO.	REGIONAL ADMINISTRATOR
1	MANCHESTER-52057	209 NORTH FRANKLIN ST		319/927-2640	JERRY L. RATTENBORG
2	MASON CITY-50401	509 SOUTH PRESIDENT	1443	515/424-4073	WILLIAM J. MEEKER
3	SPENCER-51301	401 GRAND AVE., SUITE 24	270	712/262-4177	JOHN METCALFE
4	ATLANTIC-50022	318 WALNUT		712/243-1934	R. W. GROTE
5	DES MOINES-50309	317 E. 5th ST., SUITE 21	6160	515/281-3622	JACK W. CLEMENS
6	WASHINGTON-52353	117 NORTH 2nd Ave.	27	319/653-2135	EARL C. VOELKER, SR.

(The regional staff is responsible for doing most of the field inspections and investigations of Iowa's potential pollution sources. If you have any questions or problems to report, please contact the office in your area.)

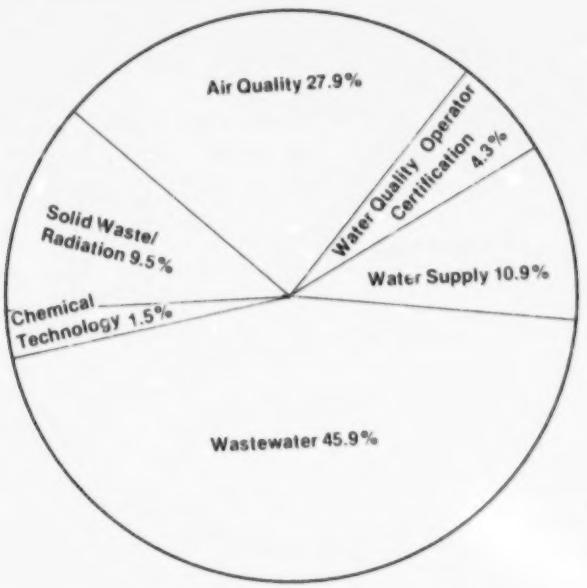
IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY

Effective October 1, 1977, DEQ will adopt a new staff organizational structure:



FINANCIAL SUMMARY

DEQ expenditures for 1976-1977 were $3,593,344. The funds were allocated to the programs described on the preceeding pages. Each program may have been further divided into cost centers based on sub-programs or funding sources.



FUTURE PROJECTIONS

DEQ will continue its effort to provide the best possible environmental protection for the State. Increased Federal funding will allow us to implement the Resource Conservation and Recovery Act (RCRA) and the Safe Drinking Water Act and to assume responsibility for the issuance of National Pollutant Discharge Elimination System (NPDES) permits in Iowa. These programs will begin during State Fiscal Year 1977-1978.

State funds will be requested from the 67th General Assembly to enforce the State's new odor rules, to provide a hazardous spill emergency fund, and to further investigate the effects of the hazardous waste disposal practices of a Northeastern Iowa industry. If approved, these funds would be available for use during 1978-1979.

PROGRAM	FUNDING SOURCE	PROJECTED EXPENDITURES 1977-1978	1978-1979
RCRA	Federal	$116,250	$155,000
NPDES Delegation	Federal	$135,088	$180,118
Safe Drinking Water Act	Federal	$72,075	$96,100
Odors	State		$149,043
Spill Fund	State		$10,000
Hazardous Waste Disposal Monitoring	State		$100,000

DEQ BUDGET BY COST CENTER
Fiscal Years 1975-76, 1976-77

PROGRAM COST CENTER[A]	STATE FISCAL YEAR	FTE[B]	TOTAL EXPENDITURES (DOLLARS)
AIR QUALITY	76	29.97	$918,109
	77	35.67	$1,001,306
SOLID WASTE/RADIATION	76	12.50	$333,214
	77	16.12	$342,478
CHEMICAL TECHNOLOGY	76	4.55	$62,585
	77	5.38	$53,425
WATER SUPPLY	76	11.80	$308,236
	77	20.59	$391,691
WASTEWATER	76	54.35	$1,186,092
	77	74.10	$1,650,913
OPERATOR CERTIFICATION	76	3.41	$173,981
	77	4.88	$153,531

$0 $400,000 $800,000 $1,200,000 $1,600,000

State Share

Federal Share

A Office of Administration and Compliance Monitoring costs have been distributed among the appropriate cost centers.

B FTE = Full-time staff equivalents.